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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,765	02/12/2002	Ashish Banerji	PD-201157	9961

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PATENT DOCKET ADMINISTRATION
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EXAMINER	
VO, TUNG T	

ART UNIT	PAPER NUMBER
2486	

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12/28/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/074,765	BANERJI ET AL.	
	Examiner	Art Unit	
	TUNG VO	2486	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 13, 14, 16/1, 16/2, 16/13, 16/14 and 17-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Gonzales et al. (US 5,414,469) as set forth in the previous office action and clarification.

Re claim 1, Gonzales discloses a method of compressing video (figs. 11, 12a, 12b, 13a, and 13b), comprising:

grouping video frames that are only between consecutive I-frames into a video data set (Figure 5; column 3, lines 35-49; column 4, lines 16-31; figure 11. The digital video input in figure 11 contains a group of pictures depicted in figure 5 which is comprised of two consecutive I-frames and a set of P-frames and B-frames between the consecutive I-frames. The video frames between the two consecutive I-frames are grouped as "BBP BBP BB" which is considered grouping video frames into a video data set ("BBP" or "BB"), i.e., a higher level of video data set. The group of pictures as shown in figure 5 has a distance between I pictures as N=9 and a distance between P-pictures as M=3. It is further disclosed that the distances N and M do not have to be constant over an entire sequence, which means the N and M that can be variable distances for grouping video frames (column 4, lines 25-38));

splitting the video data set into a plurality of homogeneous files (figures 1-4, 6, 11 and 12; column 2, line 49 through column 3, line 34). Please note the conventional MPEG-1 video layered structure depicted in figures 1-4 and 6. A video frame (A video data set) is split into slices (Plurality of macroblocks), macroblocks (A matrix of 16x16 pixels) and blocks (A matrix of 8x8 pixels). These layers are considered as a plurality of homogeneous files. Gonzales discloses further splitting of a video data set to lower level homogeneous files as follows:

The full resolution macroblock in an I or a P or a B frame is further decomposed into the 8x8 Y1, 8x8 Y2, 8x8Y3, 8x8Y4, 8x8Cb, and 8x8Cr blocks, wherein each of these blocks of 8x8 pixels are also considered as a plurality of homogeneous files; the full resolution 8x8 blocks are further split into 4x4Y1, 4x4Y2, 4x4Y3, 4x4Y4, 4x4Cb, and 4x4Cr blocks of homogeneous files as depicted in fig. 6.

Furthermore, Transform Unit of fig. 11, transforms 8x8, 4x4, 2x2 blocks of pixels to d(8x8), d(4x4) and d(2x2) DCT transformed blocks as depicted in figure 11, which is considered as a plurality homogeneous files; and

individually compressing (Hierarchical Prediction Unit and Multiplexor and Entropy Coding Unit of fig. 11; q (8x8), q(4x4), and q(2x2) of fig. 13a) each of the homogeneous files (e.g. q(8x8) is compressed by Entropy Coding Unit of fig. 11).

Re claim 24 (New), Gonzales discloses an apparatus (figs. 11) for compressing video, comprising: a processor (fig. 11) configured to, group video frames (fig. 5, GOP comprises BBP, BBP, BB video frames) that are only between consecutive I-frames (fig. 5, N=9=DISTANCE BETWEEN I-FRAMES) into a video data set (fig. 5, BBP, BBP, BB is a video data set); split the video data set into a plurality of individual data sequences (Transform Unit of fig. 11, see fig.

12b); and individually compress each of the individual data sequences (e.g. DCT 8x8, Q8 of fig. 12b).

Re claim 25 (New), Gonzales further discloses an apparatus according to claim 24, wherein each of the individual data sequences comprises a homogeneous file (DCT 8x8 of fig. 12b).

Re claim 26 (New), Gonzales further discloses an apparatus according to claim 24, wherein the processor is further configured to multiplex the individual data sequences into a bit stream (Multiplexor and Entropy Coding Unit of fig. 11).

Response to Arguments

3. Applicant's arguments filed 12/12/2011 have been fully considered but they are not persuasive.

The applicant argued that Gonzales does not teach "grouping video frames that are only between consecutive I-frames into a video data set" in B section, pages 8-12 of the remarks.

The examiner strongly disagrees with the applicant. It is submitted that the specification of the present invention discloses grouping video frames that are only between consecutive I-frames into a video data set ([0005] In a typical video coding scenario, I-frames are spaced a certain number of frames apart, with several P-frames and B-frames between two consecutive I-frames. [0022] At step 101, the non-intra frames that are between consecutive I-frames are collected into video data sets referred to herein as "I-frame distance sets." Each I-frame distance set is then processed and compresses in a loop (steps 103, 105, 107, and 109) and the results are then multiplexed into a bit stream (step 111)).

Gonzales clearly teaches **grouping video frames** (Figure 5, BBPBBPBB video frames

are grouped) **that are only** (Figure 5, BBP, BBP, BB video frames are the only video frames within the group between I frames) between **consecutive I-frames** (N = DISTANCE BETWEEN I-FRAMES, and I FRAMES from the beginning and ending of the group of frames are consecutive, see clearly in figure 5) into **a video data set** (Figure 5, Gonzales clearly discloses the video data set as "BBP BBP BB" that is considered grouping video frames into a video data set ("BBP" or "BB"), i.e., ***a higher level of video data set***.) Gonzales clearly discloses Groups of Pictures (fig. 1), and one group of pictures contains I frames, N = DISTANCE BETWEEN I-FRAMES (fig. 5), and a video data set is BBP, BBP, and BB at the higher level of video data set. Gonzales further teaches Each GOP must start with an I-picture and additional I-pictures can appear within GOP, this is understood that the GOP would have two I-frames of three I-frames. As shown in figure 5, there are only two I-frames within the group of pictures that meets the claimed limitation "consecutive I-frames".

The applicant argued that Gonzales fails to disclose grouping of video frames, which are only between consecutive I-frames, into a video data set, section C of the remarks.

The examiner strongly disagrees with the applicant. It is submitted that Gonzales clearly discloses grouping of video frames (Figure 5, one GOP), which are only between consecutive I-frames (N= DISTANCE I-FRAMES = 9, figure 5), into a video data set (BBP, BBP, BB are a video data set, figure 5).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

> such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 16/3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of Niihara (US 6,256,344) and in view of Tahara et al. (US 5,805,225) as set forth in the previous office action dated 09/12/2011.

2. Claims 4 and 16/4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of Yamauchi (US 5,729,302) as set forth in the previous office action dated 09/12/2011.

3. Claims 5 and 16/5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of Tahara et al. (US 5,805,225) as set forth in the previous office action dated 09/12/2011.

4. Claims 6 and 16/6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of to claim 1 and in view of Sazzad (US 6,122,321) and further in view of Tahara et al. (US 5,805,225) as set forth in the previous office action dated 09/12/2011.

5. Claims 7 and 16/7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of to claim 1 and in view of Tahara et al. (US 6,560,282) as set forth in the previous office action dated 09/12/2011.

6. Claims 8 and 16/8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of Nickerson (US 5,926,222) as set forth in the previous office action dated 09/12/2011.

7. Claims 9, 10, 16/9 and 16/10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of Banerji (US 6,400,289) as set forth in the previous office action dated 09/12/2011.

8. Claims 11, 12, 16/11 and 16/12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of Lei (US 6,272,180) as set forth in the previous office action dated 09/12/2011.

9. Claims 15 and 16/15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzales et al. (US 5,414,469) in view of Kikuchi et al. (US 5,719,646) as set forth in the previous office action dated 09/12/2011.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUNG VO whose telephone number is (571)272-7340. The examiner can normally be reached on Monday-Wednesday, Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tung Vo/

Primary Examiner, Art Unit 2486